

PRELIMINARY RESULTS OF THE GALILEO MISSION TO JUPITER

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On October 18, 1989 the Galileo spacecraft was launched by the Space Shuttle Atlantis in its six year trajectory to Jupiter. Since its arrival at Jupiter December 7, 1995 the Galileo mission has collected a unique set of data with its eleven instruments. Galileo's science instruments cover the spectrum from the ultraviolet to the visible, to the near infrared, to the thermal. It also has a field and particles science package. Galileo will concentrate on studying the atmosphere of Jupiter, its magnetosphere and the physical and chemical state of the Galilean moons (Io, Europa, Ganymede and Callisto). During the first Galileo orbit, the spacecraft flew by at an altitude of 835 km on July 1996. Ganymede is the largest satellite in our solar system. Preliminary results are showing that Ganymede has a thin ionosphere suggesting that it may also have a thin atmosphere. Io may have an intrinsic magnetic field, as well as new hot spots and volcanic activity, such as the one observed in Ra Patera. Features observed by the Voyager spacecraft on Io have changed such as Loki Patera which used to have a fracture that is now being covered by sulfur-rich lava flows. Europa was believed to have very few impact craters, but Galileo observations have shown that its surface does contain impact features and it may be more dynamic than previously thought. Europa's icy crust seems to display rotational movement implying a possible underlying liquid ocean.

The Galileo spacecraft will orbit Jupiter for two years to December 7, 1997. Studies for a possible extended mission are underway.